

Minnesota Department of Agriculture

September 11, 2000

Mississippi River/Gulf of Mexico Action Plan (4503F)
c/o U.S. Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington DC 20460

The Minnesota Department of Agriculture submits the following comments regarding the U.S. Environmental Agency's (EPA) *Draft Action Plan for Reducing, Mitigating and Controlling Hypoxia in the Northern Gulf of Mexico*.

The hypoxic zone is a complex ecological problem that requires a thoughtful and effective response. The approach taken to date (involving the scientific community) to assess this problem is commendable. However, we are concerned that the proposal lacks credibility in several areas. It is in large part driven by numerical goals for reducing nitrogen discharges to the Gulf of Mexico that appear almost entirely focused on reducing nitrogen while paying little attention to other significant factors. We are also concerned that the scientific assessment has not addressed all possible causes of the hypoxic zone. If all possible causes were to be considered, we believe the scope of the action plan would be broader.

We believe that as an action plan, the document is impractical for following reasons:

- a) The proposal calls for implementation on the individual level by people largely unaware of the findings, data, etc.;
- b) It calls on states and others to initiate several actions, but there does not appear to have been an analysis of their capacity to respond as suggested in several implementation strategies, or of the socio-economic impact upon states;
- c) The suggested inter-governmental roles may be seen as federally driven, and thus may encounter local resistance since they appear to have been written without broad stakeholder involvement; and
- d) The fact that there are scientific gaps that need to be resolved, which is acknowledged by the proposal.

For the plan to be successful we suggest the following major changes in focus:

- Movement away from using numerical goals for the hypoxic zone or individual basins. Because hypoxia is a multi-faceted phenomenon, an action plan based only on

reducing nitrogen loss is unlikely to have a significant impact on hypoxia.

- A reassessment and revision of the suggested governmental roles in consultation with all states and stakeholders;
- Timetables made realistic and dependent upon on the ability of 31 states and numerous tribes to obtain new, or redirect existing resources for this effort;
- Full implementation of adequate outreach and information efforts with the 31 states and their stakeholders who would be impacted;
- Immediate funding of the proposed monitoring network as well as implementation of research to address major areas of uncertainty.

The following comments are specific to other portions of the strategy in the document.

Long-Term Goals

Like everyone involved with this issue, farmers want to reduce the size of the hypoxic zone in the Gulf of Mexico. Farmers also want to do what they can to minimize the amount of nitrogen entering waterways. The concern we have with setting numerical goals for nitrogen reduction is that without knowing the dynamics of the complicated nature of nutrient cycling and transport, as well as other interactions that occur in the river and Gulf systems, we do not know whether those goals are realistic. This uncertainty is appropriately acknowledged in the [Adaptive Management] section of the draft plan.

When state and local governments respond to the plan through sub-basin and watershed planning, TMDLs, nutrient reduction programs and the development of water quality standards, we are concerned that agricultural producers could be impacted by policies, programs, strategies and (potentially) regulations that may effectively put them out of business. This is especially alarming when the plan acknowledges that we do not know the contribution these efforts will make toward achieving the numeric goals. Agricultural stakeholders have expressed this same concern over the TMDL process in forums we have sponsored.

Therefore, we would support steps to provide more research, voluntary, incentive-based programs coupled with sound and effective monitoring programs. We believe these goals are most realistic given climatic variables, build up of residual nitrogen and silica and recent fluctuations in the size of the hypoxic zone.

Rather than setting any goals based on water quality standards (concentrations, net reductions of nitrogen into the Gulf, or the size of the zone), we suggest continuing the work that is currently being done at the state level to help producers boost fertilizer use efficiency.

Numerical Goal and Base Period

We have similar concerns with base periods upon which goals would be established. Our concern stems from the fact that over the past three decades, Minnesota producers have implemented aggressive land cover practices. These practices have already resulted in reductions of between 20 percent and 25 percent for sediment and sediment-attached phosphorus. The choice of a base period may not allow for proper crediting to farmers who have implemented these best management practices, and as a result this may lead to unrealistic targets for improved management.

Implementation Actions

We are very concerned that successful implementation of these actions would require states, tribes and other organizations to obtain new resources or redirect existing ones.

We have these specific comments:

- 1) The timelines are far too short;
- 2) The implementation actions should be developed through a dialogue with states, tribes, etc.;
- 3) The state or tribes should take responsibility for the development of implementation plans; and
- 4) The actions need to be rewritten in recognition of the resource limitations of states, tribes and other organizations unless EPA is willing to provide adequate federal resources.

We also suggest adding a new strategy regarding developing hypoxia outreach, information and education programs prior to implementation of any other strategies. Our other specific comments are as follows:

For implementation action number 1, we suggest the states should coordinate and address the implementation of the hypoxia plan, taking the responsibility for action and desired outcomes.

For implementation action number 2, we suggest the states should develop strategies for nutrient reduction.

For implementation action number 4, we support increased assistance to landowners for voluntary water quality practices.

For implementation action number 6, we support additional funding for research and

modeling efforts to reduce uncertainties regarding the sources, effects and geochemical processes for hypoxia in the Gulf. Our experience in the Minnesota River Basin has taught us of the need to continually validate models and ensure that scientifically reliable and valid data are used in predictive analysis.

For implementation action number 8, we support high-resolution modeling to estimate the benefits to the individual producer and the environment. We assume by changing one or more parts of the agroecological system, the fate and transport of other nutrients and chemicals might be altered. The high-resolution modeling will assist in answering the "what-ifs" in highly variable landscapes, cropping and livestock systems.

Linking TMDLs and Hypoxia Reductions

We are very concerned about the possible linking of the implementation of the plan to the development of total maximum daily loads (TMDLs) for nitrogen because the development of nutrient criteria is a separate but related issue involving EPA. We are concerned about the influence the draft action plan may have on the development of nutrient criteria for TMDLs within the Mississippi River basin states:

Currently, limits for nitrate nitrogen are based upon the drinking water standards, and achieving a 40 percent reduction goal in Minnesota to improve the hypoxic zone in the Gulf would be very difficult. Producer groups have expressed concerns about the TMDL program and how the process could address hypoxia. Due to the time and funding required to list nitrogen-impaired waters on stream stretches, we believe this would create an unnecessary burden for states and their stakeholders.

We strongly recommend that implementation plans involve research scientists who can define what is achievable, under local circumstances, and that planning not be left solely to agencies with a regulatory bias.

Adaptive Management: Action, Monitoring and Research

We support the concept of adaptive management. However, we stress the importance of quantifying costs and benefits prior to implementation of measures or action steps. While we have confidence that some practices will result in environmental benefits, we also recognize we cannot quantify benefits in many cases and must be vigilant in monitoring results created by interjecting change within a watershed. For example, a preliminary finding by a research scientist in Minnesota using a predictive model seems to indicate that reductions in sediment and phosphorus in one major subwatershed will result in an unintended increase in nitrogen loading. We note this merely as a cautionary comment regarding the interrelated nature of the implementation actions and their accumulative impact on the watershed.

Research Teams, Education and Local Monitoring of Progress

We agree with the stated need for further research to address uncertainty, and we agree that there is a need to create or improve decision-making tools that can improve our understanding of the complex geo-chemical processes associated with hypoxia.

Because so much depends on the modeling of the nitrogen loads and concentrations, we support small pilot watershed modeling before full-scale watershed implementation. Nitrogen management research should take into account soils, landscapes and climate variability within the watersheds to be most effective in reducing nitrogen loading, and match future nitrogen research with anticipated federal farm policy provisions. Research should help producers respond to hypoxia study recommendations and sensibly integrate with future conservation measures in the 2002 farm bill.

Hypoxia and related nitrogen research team(s) should include producer members and representatives from state agriculture departments. Their involvement would help ensure broader producer participation in the research plan, and their participation would enrich the research process, as well as the extension of the information beyond the research community.

Resource Requirements

Current funding strategies appear unrealistic. The implementation strategies call for 31 states and additional tribes to individually obtain additional resources, or redirect existing ones.

With the changes expected in the 2002 federal farm bill, EPA needs to devote significant resources to help offset the economic burden on producers created by additional environmental requirements.

While the plan mentions a voluntary, incentive-based approach (which we support) for

addressing the hypoxia issue, our concern is that these numerical goals could be used in the future to require nutrient reductions for farmers without a better understanding of the causes and effects of hypoxia. We want to make sure the concerns of the agricultural community are taken into account. Based on our experience with EPA, this has not always been the case.

There are no simple solutions to reducing hypoxia in the Gulf. The fact that the size of the zone can fluctuate greatly from year to year demonstrates that natural forces and climatic changes play a large role in determining the size of the zone.

Minnesota's farmers are committed to more efficient nutrient use and can support voluntary, incentive based programs to help farmers adapt best management practices to reduce nitrogen losses. Farmers care about the environmental impacts of their practices, and they have an economic interest in efficient nutrient use. At the same time, farmers in Minnesota and the Upper Midwest must be allowed to compete effectively in a global agricultural economy. Therefore, any action plan must be based on current voluntary best management practices and not propose additional regulatory requirements that will impose additional costs to producers.

Sincerely,

Gene Hugoson
Commissioner

GH:CO:ljw